

IN THE CLAIMS:

- 1 1. (PREVIOUSLY PRESENTED) A method for a first file server to provide file service
- 2 operations normally performed by a second file server after the second file server suffers
- 3 an error condition, the first and second file servers operatively interconnected with a set
- 4 of clients using a network protocol, the network protocol being free of support for mov-
- 5 ing a transport address from the second file server to the first file server, the method
- 6 comprising the steps of:
 - 7 detecting, by the first file server, that the second file server has suffered an error
 - 8 condition;
 - 9 asserting ownership, by the first file server, of a set of storage devices normally
 - 10 owned by the second file server;
 - 11 activating, on the first file server, a secondary data access port for receiving con-
 - 12 nections over a network; and
 - 13 processing, by the first file server, file service operations directed to the secondary
 - 14 data access port from a set of failover clients, the failover clients accessing the first file
 - 15 server by computing a network address associated with the first file server from a first
 - 16 symbolic name, the first symbolic name generated by the failover client from a second
 - 17 symbolic name associated with the second file server, whereby failover operation is
 - 18 achieved by the client.

1 2. (ORIGINAL) The method of claim 1 wherein the step of detecting the error condition
2 further comprises the steps of sending, by the second file server, an error message to the
3 first file server.

1 3. (ORIGINAL) The method of claim 1 wherein the step of detecting an error condition
2 further comprises the step of:
3 detecting, by the first file server, a lack of a status signal generated by the second
4 file server.

1 4. (ORIGINAL) The method of claim 1 wherein the secondary data access port is a vir-
2 tual interface discriminator.

1 5. (CANCELLED)

1 6. (PREVIOUSLY PRESENTED) A method for a client to continue to access file ser-
2 vice operations after a first file server has suffered an error condition, the method com-
3 prising the steps of:
4 computing a failover name by appending a set text string to a name of the first file
5 server;
6 resolving the failover name to a network address;
7 connecting to a failover file server using the network address and a predetermined
8 alternate data access port.

1 7. (PREVIOUSLY PRESENTED) The method of claim 6 wherein the predetermined
2 alternate data access port further comprises a virtual interface discriminator.

1 8. (CANCELLED)

1 9. (CANCELLED)

1 10. (CANCELLED)

1 11. (CANCELLED)

1 12. (CANCELLED)

1 13. (PREVIOUSLY PRESENTED) A computer-readable medium, including program
2 instructions executing on a client, for the client to continue to access file service opera-
3 tions after a first file server has suffered an error condition, the instructions including
4 steps for:

5 computing a failover name by appending a set text string to a name of the first file
6 server;

7 resolving the failover name to a network address; and

8 connecting to a failover file server using the network address and a predetermined
9 alternate data access port.

1 14. (PREVIOUSLY PRESENTED) A method for operating a computer failover system,
2 comprising:

3 executing a client computer program on a client computer, the client computer
4 program communicating with a first file server, the first file server associated with a file
5 server name;

6 computing from the file server name, by a file system process on the client com-
7 puter, a failover name associated with a failover file server;

8 resolving the failover name to a network address;

9 detecting an error condition; and

10 connecting, in response to detecting the error condition, to a failover file server
11 port having the network address.

1 15. (PREVIOUSLY PRESENTED) The method as in claim 14, further comprising:

2 computing the failover name by modifying the file server name by an alphanu-
3 meric text.

1 16. (PREVIOUSLY PRESENTED) The method as in claim 14, further comprising:

2 computing the failover name by appending the text “backup” to the file server
3 name used to communicate with the first file server.

1 17. (PREVIOUSLY PRESENTED) The method as in claim 14, further comprising:
2 transmitting the failover name to a distributed naming service to perform the step
3 of resolving the failover name to a network address.

1 18. (PREVIOUSLY PRESENTED) The method as in claim 14, further comprising:
2 using a database program as the client computer program.

1 19. (PREVIOUSLY PRESENTED) The method as in claim 14, wherein the step of de-
2 tecting the error condition further comprises:
3 detecting a lack of a heartbeat signal from a failed file server.

1 20. (PREVIOUSLY PRESENTED) The method as in claim 14, wherein the step of de-
2 tecting the error condition further comprises:
3 transmitting by a failing file server an “I am failing” message.

1 21. (CANCELLED)

1 22. (PREVIOUSLY PRESENTED) A computer failover system, comprising:

2 means for executing a client computer program on a client computer, the client

3 computer program communicating with a first file server, the first file server associated

4 with a file server name;

5 means for computing from the file server name, by a file system process on the

6 client computer, a failover name associated with a failover file server;

7 means for resolving the failover name to a network address;

8 means for detecting an error condition; and

9 means for connecting, in response to detecting the error condition, to a failover

10 file server port having the network address.

1 23. (PREVIOUSLY PRESENTED) The system as in claim 22, further comprising:

2 means for computing the failover name by modifying the file server name by an

3 alphanumeric text.

1 24. (PREVIOUSLY PRESENTED) The system as in claim 22, further comprising:

2 means for computing the failover name by appending the text “backup” to the file

3 server name used to communicate with the first file server.

1 25. (PREVIOUSLY PRESENTED) The system as in claim 22, further comprising:

2 means for transmitting the failover name to a distributed naming service to per-
3 form the step of resolving the failover name to a network address.

1 **26. (PREVIOUSLY PRESENTED)** The system as in claim 22, further comprising:

2 means for using a database program as the client computer program.

1 **27. (PREVIOUSLY PRESENTED)** The system as in claim 22, further comprising:

2 means for detecting a lack of a heartbeat signal from a failed file server.

1 **28. (PREVIOUSLY PRESENTED)** The system as in claim 22, further comprising:

2 means for sending, by a failing file server, an error message to the first file server.

1 **29. (PREVIOUSLY PRESENTED)** The system as in claim 22, further comprising:

2 means for transmitting by the failing file server an “I am failing” message.

1 **30. (PREVIOUSLY PRESENTED)** A computer failover system, comprising:

2 a client computer having a client computer program executing thereon, the client
3 computer program communicating with a first file server, the first file server associated
4 with a file server name;

5 a file system process on the client computer , the file system process computing
6 from the file server name a failover name associated with a failover file server;

7 a port to transmit the failover name to a distributed name server to resolve the
8 failover name to a network address;
9 a port to receive a message reporting an error condition in the first file server; and
10 a file system process to use the failover name and network address to connect, in
11 response to the error condition, to a failover file server port having the network address.

1 31. (PREVIOUSLY PRESENTED) The system as in claim 30, further comprising:
2 a file system process to compute the failover name by modifying the file server
3 name by an alphanumeric text.

1 32. (PREVIOUSLY PRESENTED) The system as in claim 30, further comprising:
2 a file system process to compute the failover name by appending the text
3 “backup” to the file server name used to communicate with the first file server.

1 33. (PREVIOUSLY PRESENTED) The system as in claim 30, further comprising:
2 a file system process to transmit the failover name to a distributed naming service
3 to perform the step of resolving the failover name to a network address.

1 34. (PREVIOUSLY PRESENTED) The system as in claim 30, further comprising:
2 the client computer program is a database program.

1 35. (PREVIOUSLY PRESENTED) The system as in claim 30, further comprising:

2 means for detecting a lack of a heartbeat signal from a failed file server.

1 36. (PREVIOUSLY PRESENTED) The system as in claim 30, further comprising:

2 means for sending, by a failing file server, an error message to the first file server.

1 37. (PREVIOUSLY PRESENTED) The system as in claim 30, further comprising:

2 means for transmitting by the failing file server an “I am failing” message.

1 38. (PREVIOUSLY PRESENTED) A computer readable media, comprising:

2 said computer readable media containing instructions for execution on a processor

3 for the practice of a method for operating a computer failover system, the method having

4 the steps of,

5 executing a client computer program on a client computer, the client computer

6 program communicating with a first file server, the first file server associated with a file

7 server name;

8 computing from the file server name, by a file system process on the client com-

9 puter, a failover name associated with a failover file server;

10 resolving the failover name to a network address;

11 detecting an error condition; and

12 connecting, in response to detecting the error condition, to a failover file server
13 port having the network address.

1 39. (CANCELLED)

1 40. (PREVIOUSLY PRESENTED) A client interconnected to a first file server and to a
2 second file server, the client comprising:
3 means for detecting the first file server has suffered an error condition;
4 means for computing a failover name by appending a set text string to a name of
5 the first file server;
6 means for resolving the failover name to a network address;
7 means connecting to a failover file server using the network address and a prede-
8 termined alternate data access port.

1 41. (PREVIOUSLY PRESENTED) The client of claim 40 wherein the predetermined
2 alternate data access port further comprises a virtual interface discriminator.

1 42. (PREVIOUSLY PRESENTED) A method for a first file server to provide file ser-
2 vice operations normally performed by a second file server after the second file server
3 suffers an error condition, the method comprising:

4 detecting, by the first file server, that the second file server has suffered an error
5 condition; and
6 processing, by the first file server, file service operations from a set of failover
7 clients, the failover clients accessing the first file server by computing a network address
8 associated with the first file server from a first symbolic name, the first symbolic name
9 generated by appending a set text string to a second symbolic name of the second file
10 server.

1 43. (PREVIOUSLY PRESENTED) The method of claim 42 further comprising:
2 activating, on the first file server, a secondary data access port for receiving con-
3 nections over a network; and
4 servicing file service operations from the set of failover clients using the secon-
5 dary data access port.

1 44. (PREVIOUSLY PRESENTED) The method of claim 42 further comprising:
2 asserting ownership, by the first file server, of a set of storage devices normally
3 owned by the second file server.

1 45. (PREVIOUSLY PRESENTED) The method of claim 42 further comprising:

2 transmitting the first symbolic name to a distributed naming service to compute
3 the network address.

1 46. (PREVIOUSLY PRESENTED) The method as in claim 42, wherein the step of de-

2 tecting further comprises:

3 detecting a lack of a heartbeat signal from the second file server.

1 47. (PREVIOUSLY PRESENTED) The method as in claim 42, wherein the step of de-
2 tecting further comprises:
3 transmitting by the second file server a message indicating that failover should
4 begin.

1 48. (PREVIOUSLY PRESENTED) A computer failover system allowing a first file
2 server to provide file service operations normally performed by a second file server after
3 the second file server suffers an error condition, the system comprising:
4 means for detecting, by the first file server, that the second file server has suffered
5 an error condition; and
6 means for processing, by the first file server, file service operations from a set of
7 failover clients, the failover clients accessing the first file server by computing a network
8 address associated with the first file server from a first symbolic name, the first symbolic

9 name generated by appending a set text string to a second symbolic name of the second
10 file server.

11 49. (PREVIOUSLY PRESENTED) A computer-readable medium comprising program
12 instructions executing for execution on a processor for the practice of a method for oper-
13 ating a computer failover system, the method having the steps of:

14 detecting, by a first file server, that a second file server has suffered an error con-
15 dition; and

16 processing, by the first file server, file service operations from a set of failover
17 clients, the failover clients accessing the first file server by computing a network address
18 associated with the first file server from a first symbolic name, the first symbolic name
19 generated by appending a set text string to a second symbolic name of the second file
20 server.